

ABSTRACT OF THE DISCLOSURE

A semiconductor device includes a MOS transistor, an interlayer insulating film, a contact plug, a capacitor lower electrode, a ferroelectric film and two capacitor upper electrodes. The MOS transistor is formed on a semiconductor substrate. The interlayer insulating film covers the MOS transistor. The contact plug is connected to an impurity diffusion layer of the MOS transistor. The capacitor lower electrode is formed on the contact plug. The two capacitor upper electrodes are formed on the capacitor lower electrode with the ferroelectric film interposed therebetween.

A contact area between the contact plug and the capacitor lower electrode is greater than a contact area between each of the two capacitor upper electrodes and the ferroelectric film. At least a part of a gate electrode of the MOS transistor is located just below a region of the contact plug, which region is in contact with the capacitor lower electrode.